

Tone King "Royalist 45"

User's Manual

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Tone King Amplifiers

A division of Premier Builders Guild LLC

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Note from the Designer

Thank you for choosing Tone King's "Royalist 45" guitar amplifier. The Royalist is a genuine milestone for us, as it's the first Tone King amp that delivers the best of the vintage British sound.



The Royalist is inspired by the sound of the early Marshall amps, and you will certainly hear elements of the old Bluesbreaker, JTM45, and JMP50 in the sound of this amp.

However, the Royalist is no mere clone of a vintage amp. It is very much a new design which captures the essence of those fine vintage amps, but goes further as well.

I used the same approach to the design process as I always have in the past. It all starts with critical listening, in order to understand the

qualities - good and bad - that define the sound of these iconic vintage British amps. Then, relying simply on engineering know-how and past experience, I developed circuit designs to deliver more of the good and less of the bad qualities, for an idealized version of those iconic tones we all know and love. I made no attempt to duplicate the design or construction of the originals, since my goal was to go beyond the limitations of those classic designs.

As always, half of the design effort went into the voicing of the speaker cabinets. The goal was to capture the low-end thump, chunk, and presence of a certain vintage "basketweave" 4x12 which is a big part of that sound, but do it in a smaller, lighter, more convenient package - 1x12 and 2x12. This was the most difficult design I've done in several years, since it was so entirely different from the Fender voicings I had been familiar with. Regardless, I am delighted with the sound of the Royalist cabs, and I think they are an excellent match for the amp.



To top it off, I added a number of additional useful features. I developed a special version of the Ironman attenuator, with a reactive load tuned specifically for this amp, as well as an extremely transparent effects loop and a very useful line-out circuit.



I thank you for your purchase of the Royalist, and I hope you enjoy playing it as much as I do.

Best Regards,

Mark Bartel
Tone King Amplifiers, a division of Premier
Builders Guild LLC

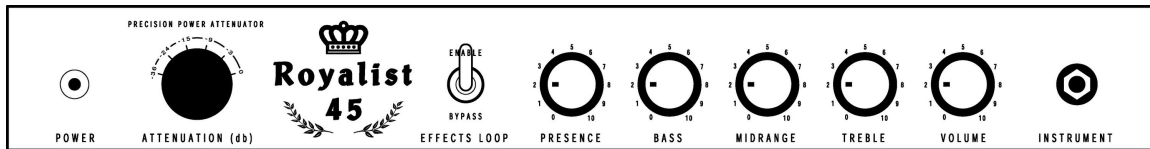
Safety Instructions (Important !)

1. Please read these instructions, and keep them for reference.
2. Please follow all instructions described here.
3. Do not use this apparatus near water.
4. Clean only with a dry cloth.
5. Do not block any ventilation openings.
6. Do not operate near any heat sources such as radiators or heat registers.
7. Protect the power cord from being walked on or pinched, particularly at the plugs and at the point where they exit from the apparatus.
8. Only use attachments/accessories specified by the manufacturer.
9. Unplug this apparatus during lightning storms or when unused for long periods of time.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way. For example, if the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
11. CAUTION: To disconnect the unit completely from the MAINS, unplug the unit. Turning the power switch off does not disconnect the unit completely from the MAINS.

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1. Front Panel Controls



(note: the illustration above shows the faceplate of the Royalist combo. The faceplate of the head version is a mirror image of the one shown above)

Instrument Input

The guitar is to be plugged into the instrument input

Volume & Tone Controls (Treble, Mid, Bass)

These controls should be familiar, as they operate in the same way as most other guitar amplifiers. The Treble knob adjusts the level of high frequencies. The Bass control adjusts the level of low frequencies, and the Midrange control adjusts the level of midrange frequencies.

The Royalist is a non-master-volume design, which means that overdrive and distortion are generated by both the preamp and power amp in certain predetermined proportions. This makes it relatively easy to dial in the amount of overdrive and distortion you want – it's all under control of the single Volume knob.

Presence

The Presence knob adjusts the level of very high frequencies (those above the range of the Treble control), and does it in a way that is slightly different than the Treble control. As you turn the Presence knob up, the level of those very high frequencies is increased, as you would expect. But, the presence control has an effect on the “feel” of the amp as well. At higher settings, the amp is punchier and more “raw” sounding, while at lower settings is less “spiky”, with a more “compressed” feel.

It's a good idea to get used to the specific effect of the Presence control, as it can really help to dial in your sound for a particular room or setting. I generally set the presence control higher in larger rooms, but keep it rather low at home.

Effects Loop Bypass

This switch allows you to bypass the effects loop. It's always a good idea to use the “bypass” position when you are not using the loop. If you have this switch set to “enable”, then the signal will be passing through the effects loop circuitry in the amp, even if nothing is plugged into the Send and Receive jacks. In the “bypass” position, you are guaranteed that none of the effects loop circuitry touches the signal path.

Attenuation Control

The Royalist contains a built-in Ironman precision attenuator, designed specifically for this model. The attenuator allows you to reduce the volume level of the amplifier while retaining the natural overdrive sound and feel of the amplifier. The tone and feel that this amplifier is designed for are best achieved by a certain proportion of preamp distortion to power tube distortion, so an attenuator is the best way to control volume level while preserving that balance.

This attenuator uses transformer coupling and a precision tuned reactive load to best preserve the natural tone and feel of the amp, even at very low volume. This is the same general approach used in the highly regarded Ironman standalone attenuator.

There are many different approaches that can be used to generate overdriven and distorted tones at a low volume. For example, master volume circuits, or a power reduction scheme such as London Power Scaling have both been used successfully on various amp models of other brands. However, for the vintage British tones that the Royalist is designed to achieve, a good quality attenuator such as the built-in Ironman is the best way to preserve tone and feel at very low volume, because it allows the output stage to operate the same way at any level of attenuation.

The attenuation control determines the amount of power sent to the speaker, but does not affect the operation of the output stage of the amplifier itself. The attenuator absorbs and dissipates any excess power generated by the output tubes that is not sent to the speaker.

The attenuator is internally connected between the amplifier output and the speaker jack – the same way an external attenuator would be connected. However, the input of the attenuator is not accessible, so you cannot use the built-in Ironman attenuator to attenuate the output of some other amplifier.

2. Dialing In Your Sound

All of the previous Tone King models have been based more or less around the 1960s Fender clean sound. The Royalist is a completely different amp. It is designed to capture the magic of late 60's / early 70s British amps. As such, the Royalist is nearly completely unrelated to all previous Tone King amps, and should not be expected to have the same voicing and tonal palette.

The Royalist is actually very simple to dial in. It doesn't require precise tweaking of the tone controls. In general, good tones can be found no matter how the tone controls are set. Let's take a look at a few settings which display some of the Royalist's best characteristics.

Starting Point

The settings shown here are a great starting point, no matter what kind of guitar you are using. In order to become familiar with the Royalist, I'd start with these settings, and try changing each control, in turn, to note its effect.

Volume	Treble	Midrange	Bass	Presence
5	5	5	5	5

I find that I set the controls of the Royalist to the settings above almost all the time, no matter what I'm playing. A setting like this is also quite versatile – try rolling down the volume control on your guitar, and observe how the mildly overdriven tone cleans up nicely to a well balanced clean tone.

The Marshall Trick

A common way to set up an old Marshall “plexi” for a great crunchy rock tone is like this (below). It looks like an extreme setting, and it is. But, it just happens to sound great with this kind of amp.

Volume	Treble	Midrange	Bass	Presence
10	10	10	2	2

Fat, Warm Clean Tone

Although the Royalist is very much centered on delivering vintage British tones, it's still possible to conjure up a nice warm, fat clean tone, reminiscent of the of the older Tone King models. Here's a setting that will get you started in this direction, though you may want to tweak the treble and presence controls as necessary.

Volume	Treble	Midrange	Bass	Presence
2	3	1	8	6

Volume and Attenuation

The Royalist is a non-master-volume amp, just like an old JTM45. This means that the volume control alone determines the signal level through the amplifier. This makes it simple to dial in. You turn the volume control down for clean tones, and turn it up to overdrive the amp and achieve distortion. Easy enough, but there is a limitation. In this kind of design, overdrive and distortion are only possible when the amp is generating its maximum output power (just like an old JTM45).

For most non-master-volume amps, this is a problem. It will only start to break up at ear-splitting volume, which makes it less than useful at small clubs and at home. This is why the Royalist includes the Ironman power attenuator. You can think of the Ironman as being functionally equivalent to an external power attenuator connected between the amplifier output and the speaker. Its purpose is to allow the amplifier to operate at full output power, while sending only a fraction of that power to the speaker. By operating this way, the tone and feel of the amplifier is retained quite well even at very low volume.

It's important to understand how to use the Volume and Attenuation control in order to get the sound you want at the volume level you need. In general, you can think of them as serving two different functions. You would use the Volume control to adjust the amount of overdrive and distortion you want, and then adjust the attenuator to get the volume level you want.

For clean tones, there are some additional things to consider. You might start out by setting the attenuator to 0db (bypassed), and dialing in the volume level you want with the Volume control. This will certainly give you the most headroom. However, if you are playing in a very small room, or need to keep the volume level down very low, you might want to turn the attenuator down a few clicks so that you can turn the volume control up a bit more for a slightly warmer, fatter sound.

Notes on using the attenuator

In the 0db position, the attenuator is completely bypassed, and the speaker is connected directly to the output transformer secondary, with no additional circuitry touching the signal path.

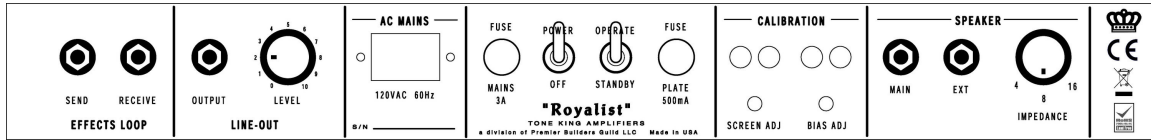
Although the Ironman attenuator does an excellent job of reducing output power without changing the tone of the amp's circuitry, there are other variables in play at lower volume which do result in some apparent tone change. Here are a few factors that you should be aware of -

Speaker breakup and compression is a big part of the tone and feel of the amp when played at high volume. At low power settings, the speaker responds differently, and does not break up and compress as it does at high power.

The ear's natural response curve varies at different volume levels, which changes the way you perceive sounds at different volume levels. Quieter sounds tend to give the impression of having less bass content.

At lower volume, there is a tendency to hit the guitar strings harder and play more aggressively than you would if the amp were tuned up very loud. It may take some time to get used to maintaining your playing style at reduced volume.

3. Back Panel Controls



(note: the illustration above shows the back panel the Royalist combo. The back panel of the head version is a mirror image of the one shown above)

AC Mains

Always use a grounded AC cord, and make sure that a proper ground connection is supplied to the amp. Never attempt to lift or defeat the ground connection to the amp.

Fuse (Mains)

This fuse is inline with the AC power input, and protects the primary side of the power transformer. Make sure to use a fuse of the same rating and type specified on the back panel of the amplifier.

Fuse (Plate)

This fuse protects the amplifier if one of the output tubes develops a short circuit. You should use a standard fast-acting 500mA fuse here.

Power Switch, Standby Switch

When powering up the amp, you should start with the Power switch OFF, and the Standby switch in the "STANDBY" position.

First, turn on the Power switch. This will apply power only to the tube filaments only.

After turning on the Power switch, allow the tubes to warm up for about 1 minute, then toggle the Standby switch to the "OPERATE" position.

The power-down sequence is not as important as the power-up sequence. When turning the amp off, you may turn Power off before Standby, or turn Standby off before Power, or turn them both off at the same time.

Speaker Jacks, Impedance Switch

When only one speaker is being used (e.g. the internal speaker, if yours is the combo version of the Royalist), it must be plugged into the "Main" speaker jack. The Impedance switch should be set to match the impedance of that speaker.

The Extension speaker jack may only be used if there is also a speaker plugged into the Main speaker jack. Inside the amp, the Extension speaker jack is wired in parallel with the Main speaker jack. Because of this, we have to consider the impedance of both speakers connected in parallel, and set the impedance switch to that total combined value.

For example, suppose you connect an 8-ohm speaker to the Main speaker jack, and connect another 8-ohm speaker to the Extension speaker jack. When you connect two 8-ohm speakers in parallel, the total combined impedance is 4 ohms, so you would set the Impedance switch to 4 ohms.

Calibration (test jacks, screen adj, bias adj)

The test jacks and calibration trimmers in this section of the back panel are used to calibrate the screen grid voltage and the bias current of the output tubes. The calibration procedure is described in detail in its own section of this manual

Effects Loop (Send, Receive)

The effects loop is a tube-buffered series loop. It is designed to be used with either standard footpedals or rack mount effects. The front panel “FX Bypass” switch can be used to bypass the loop, and should be set in the Bypass position if you are not using the loop.

The “Send” jack should be connected to the Input of your effects device. The “Receive” jack should be connected to the Output of your effects device. Both connections should be made with a ¼” mono instrument cable.

For best results, you should only use effects such as (delay, chorus, phaser, reverb, flanger) in the effects loop. Any type of overdrive or distortion effect will work best when connected between the guitar and the Instrument input jack of the amp (not in the loop).

Your chain of effects is expected to have unity gain (meaning that the output level is the same as the input level). The effects devices must NOT add or subtract gain, or the balance of gain within the amp will be changed, and the sound of the amp will be compromised. When using the effects loop, try toggling the FX BYPASS switch on the front panel back and forth, and adjusting your effects devices so that the signal level remains the same when enabled as when bypassed.

Line Out (Output, Level)

The line-out signal is generated from the speaker output, and is conditioned so that the signal level is appropriate for driving the a line level input such as a mixing board, computer sound card, headphone amplifier, or the input of another guitar amplifier.

Because it is generated from the speaker output, it retains the sound of the amplifier quite well.

It is possible to operate the amp without a speaker connected, and to use only the signal coming from the line-out jack. In order to do this, simply turn the attenuation control (on the front panel) to the -36db setting, and unplug all speakers from the speaker jacks. It is perfectly safe to operate the amplifier like this. The output stage will be properly loaded by the reactive load circuit of the attenuator, and there is no risk of damaging the amplifier in any way.

4. Calibration

Both the screen voltage and bias current of the output tubes can be calibrated using the test points and control trimmers on the back panel of the amp. Calibration of both screen voltage and bias current can be performed without removing the chassis from the cabinet. Calibration is not terribly difficult. Once you have the tools you need and have been through the process once or twice, you'll find that you can do it in a matter of minutes.

When & Why To Calibrate

The Royalist is fully calibrated at the shop, so it is ready to play right out of the box. However, calibration may become necessary in the future, so you should know about what is needed, even if you intend to have the calibration performed by a technician or guitar shop.

Screen Voltage

The screen grid supply voltage determines the operating point of the output tubes. The Royalist provides you with the ability to measure and adjust the screen grid supply voltage to help you tweak the amp for the sound and feel that you prefer.

The screen voltage is set at the shop to the voltage level I prefer. It's a good idea to check the screen voltage before setting the bias current, to ensure that it hasn't drifted from the value it was set at originally. You may also want to change the screen voltage setting, to dial in a different feel and tone. Regardless, whenever you change the screen voltage, you must set check and re-set the bias current after changing the screen voltage.

Bias Current

The output tubes of the amplifier must draw a specific amount of plate current at idle (with no signal going through the amp) in order for the amplifier to operate properly. This current level is set with the Bias Adj control on the back panel of the amp. Whenever you change output tubes, or adjust the screen voltage, you must calibrate the bias current of the output tubes. This calibration procedure is explained in detail on the following page.

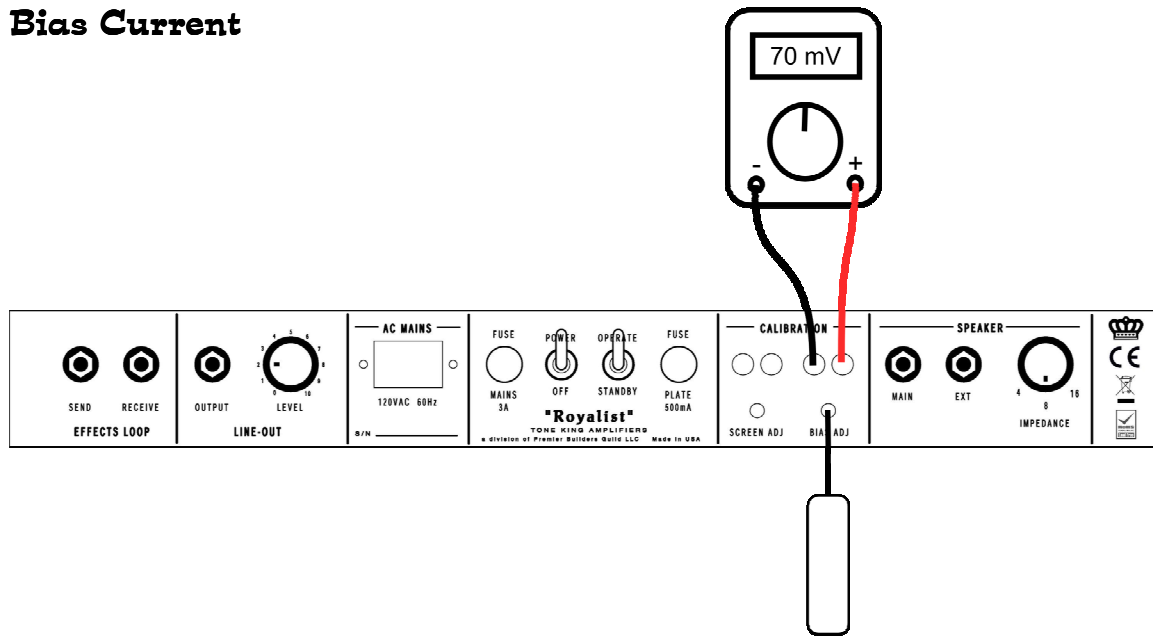
Tools You Will Need

Small Screwdriver: you will need a small slotted screwdriver to make the adjustments. The blade of the screwdriver should be around 1/8" wide. This is a very small screwdriver, but not quite as small as a "jeweler's" screwdriver (the type used to fix eyeglasses).

Multimeter: you will need a multimeter capable of measuring voltage in the 0-200mV range, and also the 0-20V range. You do not need an expensive or complex meter. Something like this will do just fine:

<http://www.harborfreight.com/7-function-multimeter-98025.html#.Ux5GSoVMpB4>

Bias Current



Procedure:

1. Power up the amp as usual. Allow the amp to warm up for 5 minutes or so before setting the bias current.
2. Attach the meter as shown in the diagram above. Set the meter to read DC voltage (not current) in the 0-200mV range.
3. Insert the screwdriver into the hole shown, and make sure that it properly mates with the adjuster screw of the trimmer pot. Adjust the trimmer until the meter shows the correct value. This is a 10-turn trimmer pot, so you may have to rotate it through several turns to arrive at the value desired.

Target Values (as read on the meter connected as shown above):

EL34:	70mV
KT66:	70mV
6L6GC:	70mV

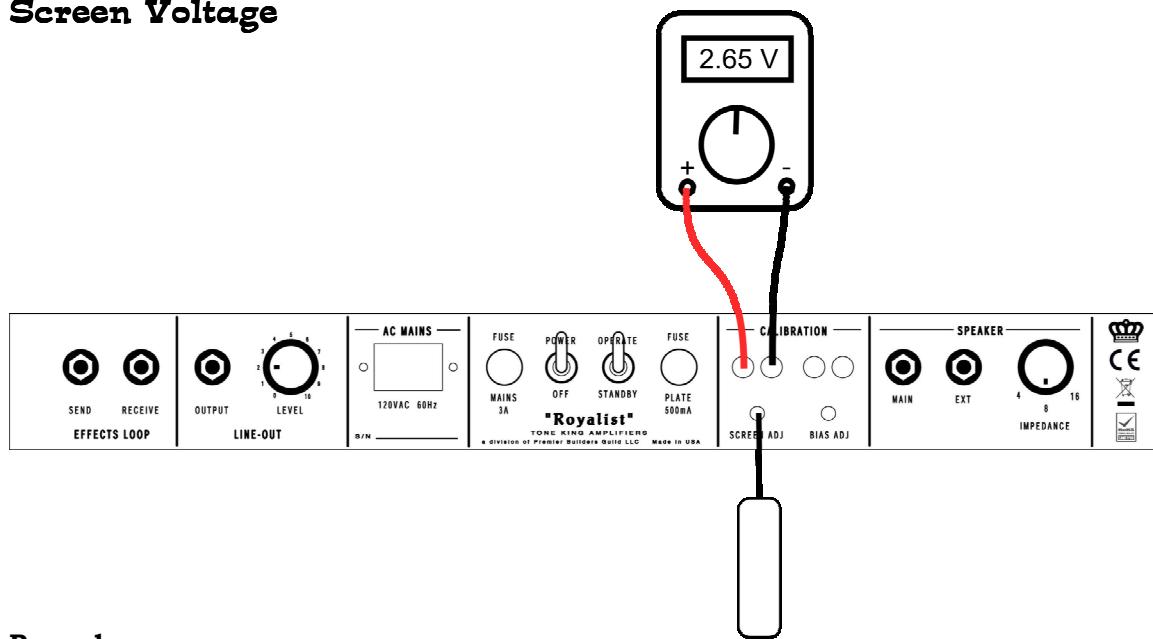
Technical Details:

Inside the Royalist, there is a 1-ohm resistor connected between the cathode of the output tubes and ground. The bias test points on the back panel of the amp allow you to measure the voltage across this resistor, and compute the combined cathode current of both output tubes. Although the cathode current is actually the sum of the plate current and screen current, the screen current is negligible at idle.

Because you are measuring the voltage across the 1-ohm resistor, you know that 1mV across the resistor indicates 1mA of current through the resistor, and this 1mA of cathode current. The value measured on the meter shows the combined cathode current for both tubes.

For EL34s, I prefer to set the bias current to 35mA per tube. This adds up to 70mA total for both tubes, which is indicated by a voltage reading of 70mV at the bias test points.

Screen Voltage



Procedure:

1. Power up the amp as usual.
2. Attach the meter as shown in the diagram above. Set the meter to read DC voltage in the 0-20V range.
3. Insert the screwdriver into the hole shown, and make sure that it properly mates with the adjuster screw of the trimmer pot. Adjust the trimmer pot until the meter shows the correct value. This is a 10-turn trimmer pot, so you may have to rotate it through several turns to arrive at the value desired.
4. As soon as you reach the target value, switch the amp to Standby mode, set up the meter to perform a bias test, then switch to Operate mode and re-set the bias current (as described in the previous section).

Target Values (as read on the meter connected as shown above):

EL34:	2.65V
KT66:	2.65V
6L6GC:	2.65V

Technical Details:

The voltage you measure at the Screen Voltage test points is 1/100 of the actual screen voltage supplied to the output tubes. Thus, if you measure 2.65V at the test points, the screen grid voltage supplied to the output tubes is actually 265V. This voltage division was done for safety reasons.

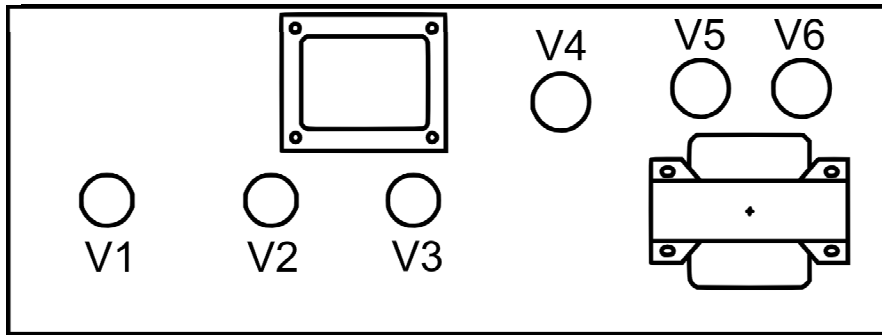
I prefer to set the screen voltage to 265V (which is a reading of 2.65V on the meter) – it's a “sweet spot” where the attack, feel, and harmonic content are ideal for my taste. However, you may wish to use a different setting for a different sound and feel.

Higher screen voltage will give you a “harder” feel and a “sharper” attack. Lower screen voltage will result in smoother overdrive and a softer feel.

Any setting available in the full range of the trimmer pot is safe to use. It isn't possible to set the screen voltage to a level that will be harmful to the amp. However, you need to keep in mind that the bias current will increase as you increase the screen voltage, so you will need to re-calibrate the bias current every time you change the screen voltage.

If you are significantly increasing the screen voltage, keep in mind that the bias current will increase as well, so you want to make sure not to let the amp sit running for very long after adjusting the screen voltage, before you re-calibrate the bias voltage.

5. Tube Installation and Replacement



Choice of Tube Types

I currently recommend the following tube types:

No.	Type and Brand	Function
V1	TAD 12AX7A-C/Tung-Sol 12AX7	1 st Gain Stage, FX Receiver
V2	TAD 12AX7A-C/Tung-Sol 12AX7	2 nd Gain Stage, Cathode follower, FX driver
V3	TAD 12AX7A-C/Tung-Sol 12AX7	Phase Inverter
V4	TAD 6V6GT	Screen Regulator
V5,V6	TAD EL34B (see text)	Power Output

Preamp Tubes V1 ,V2, V3

Both the TAD 12AX7A-C, and the Tung Sol 12AX7A are a great match for the Royalist. Both have a nice balance of detail and warmth, with the Tung Sol having perhaps a bit more transparency in the top end, and the TAD having a bit less glassiness but still a nice presence in the upper mids.

EH 12AX7s are very similar to Tung Sol 12AX7s – both are very quiet with very low microphonics and are a bit on the bright side, with an extended top end. Tung Sols seem a bit warmer than EHs.

The Svetlana 12AX7, a short-plate tube, has nearly the clarity of the 12AX7EH, and slightly more bottom end, but is a bit congested in the midrange. Years ago, I had selected this brand as the brand of choice for the Meteor/II amp, but later changed to a combination of the 12AX7EH and the 12AX7LPS.

Sovtek 12AX7LPS – this long-plate 12AX7 has a big, warm sound that comes close to a good NOS long-plate 12AX7. However, this tube can tend to be microphonic.

Screen Regulator Tube V4 (6V6GT)

V4 is used as a voltage regulator to generate the screen voltage for the output tubes. This is a somewhat unusual circuit to include in a design such as this. It provides several advantages.

First, it allows you to set the screen voltage to any level you wish (via the calibration control and test points on the back panel), in order to tailor the attack and “feel” of the amplifier to your preference. A higher screen voltage will give you a faster attack with a “harder” feel, while a lower screen voltage will soften the attack and give you a more “compliant” feel.

Second, by regulating the screen voltage while also controlling the impedance of the screen supply, it serves to virtually eliminate “sag” independent of the attack (as described above). This means that you can dial in a “softer” attack, while still having virtually no “sag”.

Third, by operating the screen grids at a lower voltage than in a typical design of this type, the screen grid dissipation is significantly reduced, for extended tube life.

6V6 WARNING !

The following brands are NOT recommended, as we’ve experienced a high rate of red-plating and short circuit faults with these:

- Tung Sol 6V6GT
- EH 6V6GT manufactured after December 2014

We had been recommending EH brand 6V6s for years. These were great tubes, but some time around December 2014, the manufacturer changed the design, and they now appear to share the same construction as the Tung Sol 6V6. After the design change, we noticed the same reliability problems as the Tung Sol 6V6, so we no longer recommend using the EH 6V6 of current manufacture.

6V6 Tube Choices:

The brand of 6V6GT used in the V4 position will not have a very significant effect on the sound of the amp. Regardless, the two brands described below are safe to use in the Royalist. The tonal characteristics described are noted for their use as output devices. These characteristics are likely to be less apparent when used here as the screen regulator tube V4.

I prefer the TAD 6V6 for its warmth, smooth compression, and balanced top end.

The JJ brand 6V6 is another acceptable choice. The JJ 6V6 has a bigger, fatter sound than the TAD, but is a bit less lively sounding, and has a more muted top end. It sounds a bit more like a 6L6 than a 6V6.

Power Output Tubes V5 & V6

The Royalist 45 has a slightly higher plate impedance than a typical EL34 amp of this type, for a more authentic vintage kind of sound. Because of this, you may operate the Royalist with EL34 tubes, as supplied, as well as a few other tube types.

EL34 Tubes

The Royalist is supplied with TAD EL34B tubes. For the Royalist amp, these are my favorites of the current production EL34s. They have the signature crunch you expect from EL34s, but also have a nice fullness to the bottom end, and clarity in the top end that make them sound great clean as well as overdriven.

6L6 Tubes

The Royalist can also accept 6L6 tubes, provided that pin 1 is not used as an internal connection. Most current production 6L6s fit this description. I have tested the Royalist with TAD 6L6WCGs, as well as several Sovtek Types, and they have all performed well.

KT66 Tubes

The Royalist can also accept SOME brands of KT66 tubes. Again, it must be ensured that pin 1 is not connected to any internal elements of the tube. KT66s sound absolutely wonderful in the Royalist – they are certainly worth trying, if you prefer something closer to an old JTM45 kind of sound. Here are some of the brands I have tested:

- Gold Lion KT66 (“Genelex” Reissue) – this one works well in the Royalist. It sounds amazing and has that big “grunt” that you expect from an old JTM45.
- Chinese (e.g. Valve Art) KT66 – the sample I tried did not work properly in the Royalist. I suspect that pin 1 is connected to an internal node, causing the fuse to be blown upon power-up. The same Chinese made KT66 tube is sold through various distributors under different names, but I suspect they are probably all the same tube. This isn’t to say that the Chinese KT66 is a bad tube – on the contrary, I’ve tried it in other amps and it has sounded wonderful. However, since it seems that pin 1 is used internally, it will not work properly in the Royalist.

These are the only two I have tried so far. I will update this manual to advise on other types as I am able to try them.

Installing Tubes

When installing tubes, you may find it helpful to lay the amp on its side on a table, and shine a light directly into the back of the amp, to aid in locating the position of each tube. Tubes must be installed in the correct orientation. The smaller, all-glass tubes have a blank space in the ring of pins which must line up with the blank space in the ring of tube pins in the tube socket, located on the chassis. The larger, bakelite-base tubes have a small cylinder with an indexing key in the center of the ring of tube pins, and this indexing key must match up with the corresponding slot in the socket on the chassis.

Replacing Output Tubes

When changing output tubes, I recommend using a matched pair, but if a matched pair is not available, an unmatched pair will work fine.

Any time you change output tubes, you must re-set the bias current, by adjusting the bias control on the back panel, while observing the bias current with a multimeter. This process is described in detail in the Calibration section of this manual.

Tube Quality

Currently manufactured tubes are built in China, Russia, or the Czech Republic, and are not built to the same quality standards as tubes manufactured in the “glory days” of tube manufacturing.

We musicians choose to use vacuum tubes because of their tone, but we need to accept that the tubes available to us these days can be imperfect devices, and are most certainly the least reliable component in the entire amplifier.

It would seem that the obvious solution would be to use new-old-stock tubes that were made back in the “glory days”, when tubes were very well made. However, I’ve lately been finding that much of the available stocks of such “new old stock” tubes are either gassy, noisy, or unreliable – I do believe that we’ve reached the bottom of the barrel of NOS tubes.

Tube problems generally reveal themselves as a crackling noise which can occur continuously, sporadically, in response to mechanical vibration, or in response to your playing (e.g. a crackling or other type of noise which occurs only when you hit a note).

We subject all tubes to a thorough burn-in and test procedure to ensure that they are fully up to spec and operating perfectly. However, you must be aware that the majority of tube failures occur early in their life, and may come about as a result of the jostling and jarring that an amp can receive in shipping. In spite of the exhaustive testing we perform at the shop, early-life tube problems cannot always be found in such testing. The first two months or so are the most tenuous period for any set of tubes. Most manufacturing defects will be revealed in the first two months of their life, but many are not detectable in initial testing, even after a burn-in period.

If you notice any noises, cracking, or any other odd behavior of your amplifier in this period, note that it is most likely to be the result of a defective tube, and should be debugged as such.

Premier Builders Guild LLC

Limited Warranty

Premier Builders Guild LLC
201 S. Highland Avenue, Suite 204
Pittsburgh, PA 15206

This warranty gives you specific legal rights; you may also have other rights which vary from state to state. There are no express warranties except those listed below.

Length of Warranty

This warranty shall remain in effect for five years from the date of sale of the product as shown on the original bill of sale.

What is Covered

This warranty covers all defects in material and workmanship in this product, with the following exceptions:

1. Damage or deterioration of the cabinet, or any other cosmetic damage which occurs after delivery is not covered by this warranty.
2. Damage after initial delivery resulting from accident, unreasonable use, or neglect, is not covered by this warranty.
3. Damage resulting from the performance of repairs by someone other than the Tone King Amplifier Company is not covered by this warranty.
4. Damage occurring during shipment or delivery of this product to the Tone King Amplifier Company after initial delivery of the product is not covered by this warranty.
5. Vacuum tubes are considered a user-replaceable item, as they are expected to wear out and require replacement over a reasonable period of time. Tubes are warranted to be serviceable for a period of 90 days from the date of sale.
6. The speaker(s) in this amplifier has(have) been selected for use only with this amplifier. If the speaker(s) of this amplifier is(are) connected to an amplifier other than the intended amplifier, any warranty of this speaker shall be deemed void.

What We Will Pay For

The Tone King Amplifier Company will pay for all labor and material expenses to fix or replace all items covered under this warranty. The customer will pay shipping charges to return the product to the Tone King Amplifier Company. If the necessary repairs are covered under this warranty, the Tone King Amplifier Company will pay any shipping charges required to return the product to the customer.

Limitation of Implied Warranties

All express or implied warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty, unless otherwise provided by state law.

Exclusion of Certain Damages

The Tone King Amplifier Company's liability is limited to the repair or replacement, at our option, of any defective product, and shall in no event include incidental or consequential damages of any kind. Some states do not allow limitations on the length of an implied warranty and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Obtaining Warranty Service

If your unit requires service, it should be returned to the Tone King Amplifier Company at the address listed above. Before returning the unit, you must contact the Tone King Amplifier Company and obtain return authorization.

CE Declaration

Premier Builders Guild, LLC
201 S. Highland Avenue, Suite 204
Pittsburgh, PA 15206
412-362-0309



DECLARATION OF CONFORMITY Report #R070212

We, Premier Builders Guild, in coordination with CES Laboratories, declare, taking this declaration under our total responsibility, that the below models are in conformity with the provisions of the following EC Directive(s) when installed in accordance with the installation instructions contained in the product documentation:

2006/95/EEC Low Voltage Directive
2004/108/EEC EMC Directive
2011/65/EEC RoHS-Directive

And that the standards and/or technical specifications have been applied to the following families of products:

Imperial	Metropolitan
Galaxy	Falcon
Sky King	Royalist
Imperial MK II	Falcon Grande

Manufacturer/Importer
Date: 8/25/2015

Signature:

Name and Title: Christopher W. Fleming
U.P. PROJECT ENGINEERING

Approved By:
Chandra Garudachar
President
CES LABORATORIES

Prepared By:
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